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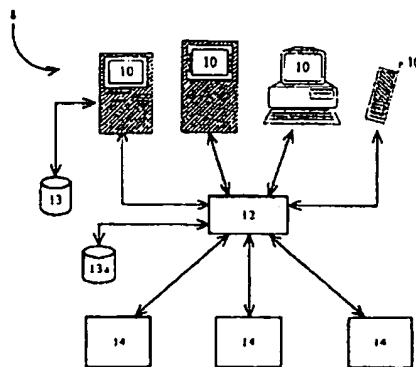
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[54] 发明名称 具有多个用户界面的自动交易执行系统

[57] 摘要

本发明披露了一种动态标记交易执行系统和方法,该动态标记交易执行系统和方法包括成员机构、多个交易执行机(TEM)以及处理与路由系统,该处理与路由系统用于在成员机构与 TEM 之间建立连接并对信息进行处理。各 TEM 均含有标识装置和用户界面,并且可以选择地包括测量装置。当客户使用 TEM 之一时,将用户界面大致修改为全业务交易机。这样对 TEM 进行动态标记,即在客户进行交易过程中,它的行为就象它归成员机构所有,并提供选择成员机构的客户要求的全业务。不同通信方式包括:显示器、小键盘或触摸板、声频系统和视频系统。多个成员机构对交易执行系统具有不同的所有权和出租方案。



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标签” ATM) 不能对成员金融机构客户提供对附属系统 ATM 有效的“全业务”能力。对于非附属 ATM 运营商来说, 这种情况不是所需要的, 并且不是最佳情况, 因为在这些终端只能进行少量交易, 从而减少了其用途和派生的收益。

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需要为“虚拟银行”提供一种通过发送或接收实际值项目(例如: 息票、银行汇票、证明过程、存款) 与其客户以及位于多个 ATM 位置的“利用个人计算机或电话的电子银行”业务进行交互的装置。

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从现有技术及其实施过程显而易见, 在任何 ATM 内均存在受限的交叉机构功能, 这些限制取决于传统 ATM 网络结构和运行的网络互连财团系统(Interac 的进退两难的交易类型子集) 以及所采用的协议和模式。

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此外, 在 ATM 的容许功能方面也存在一些限制, 这是由附带所有权或对 ATM 或对 ATM 作为其一部分的网络或系统的实际所有权的控制权引起的, 以致在某些情况下将对 ATM 的充分使用限制到 ATM 的所有者。

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本发明的目的是提供一种交易执行系统、方法、设备以及营业方法, 它们可以避免或减少上述缺点或缺陷, 或者满足上述需要。

#### 发明内容

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出现了一种上述讨论的现有技术不能满足的需要, 即以将注意力集中在成员机构并利用成员机构标记作为中心的方式, 而非以用户为中心的分布模式或以银行为中心的模式, 在网络上提供多个个性标记交易机。

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根据本发明, 提供了一种动态标记交易执行系统, 该系统包括: 至少两个成员机构、至少一个共享 TEM 以及处理与路由选择系统,

以对成员机构与一个共享 TEM 的用户之间的信息建立连接并进行处理。在选择的一个成员机构的控制下，对共享 TEM 进行设置以响应用户提供的信息从而包括适于 TEM 的标记单元。

5           根据本发明的另一个方面，提供了一种用于动态标记 TEM 的方法，该方法包括步骤：

a. 在 TEM 启动用户与从多个机构中选择的机构之间的交易，选择机构包括预定标记单元；

b. 根据用户提供的标识信息，将 TEM 连接到选择机构；以及

10           c. 根据选择机构的预定标记单元对 TEM 进行配置，从而利用选择机构的识别码和功能动态标记 TEM。

根据本发明的下一个方面，提供了一种动态标记 TEM 的方法，该方法包括步骤：

15           a. 使 TEM 保持空闲状态或等待状态；

b. 用户向 TEM 提供信息以启动交易过程；

c. 根据此信息，可操作地将 TEM 连接到选择机构，选择机构包括预定标记单元组；

d. 利用适于 TEM 能力的选择机构的预定标记单元配置 TEM；

20           e. 允许用户与选择机构进行交易；

f. 完成交易过程后，使 TEM 返回其空闲状态或等待状态。

根据本发明的又一个方面，通过了一种交易执行系统，该交易执行系统包括：

25           a. TEM，用于简化用户与来自多个机构的选择机构之间的交易过程，选择机构包括预定标记单元；

b. 通信系统，响应用户提供的信息，用于将 TEM 可操作地连接到选择机构；以及

30           c. 配置系统，用于根据选择机构的多个标记信息，对 TEM 进行配置，从而利用选择机构的识别码和功能动态标记 TEM。

d. 收益流, 是作为用户与 TEM 之间的交互过程结果产生的; 其中将部分收益流分布到系统参与者。

根据本发明的又一个方面，提供了一种用于提供动态标记交易执行系统的计算机可读介质，该计算机可读介质包括：

- 5           a. 至少一个 TEM，用于简化用户与从多个机构中选择的机构之间的交易过程，选择机构包括预定标记单元；
- b. 通信系统，响应用户提供的信息，用于可操作地将一个 TEM 连接到选择机构；以及
- c. 配置系统，用于根据预定标记单元对 TEM 进行配置，从而利用选择机构的识别码和功能动态标记 TEM。

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#### 附图说明

通过参考附图对本发明进行详细说明，本发明优选实施例的这些以及其它特征将变得更加明显，附图包括：

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图 1 示出动态标记交易执行系统的简图；

图 2 示出图 1 所示的交易执行机 (TEM)；

图 3 示出图 2 所示的 TEM 的用户界面；

图 4 示出图 1 所示的可替换实施例；

图 5 示出图 1 所示的可替换实施例；

图 6 示出图 1 所示的可替换实施例；以及

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图 7 示出模拟硬线按钮的图 2 所示的 TEM 显示器的示意图。

#### 优选实施例的说明

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本发明实施例一般地提供了一种由从多个机构内选择的特定机构动态标记交易终端的方法和系统，动态标记交易终端还被称为交易执行机 (TEM)。可以将 TEM 插入通过路由与处理系统将 TEM 与机构相连的交易执行系统内。TEM 可以根据动态标记假定“多种个性”，在交易期间，客户选择机构的预定规程（或标记单元）确定动态标记。该执行系统设置包括此动态标记 TEM 的 TEM 设备和系统。

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TEM 是一种用于在机器的用户与机构之间执行交易的机器，其

中 TEM 通过输入/输出子部件与用户交互。通信系统和配置系统将 TEM 与机构连接在一起。在与用户进行交易期间，可以对 TEM 进行配置以包括至少一个期望的机构的标记。

5           TEM 可以包括各种已知装置、可预测装置以及将来可能出现的装置。在作为所披露系统一部分进行适当配置后，可以作为 TEM 的已知装置包括（举例来说而没有限制意义）：ATM；个人计算机，具有浏览器并可以进行网上访问；web-TV（<sup>TM</sup> Microsoft Corporation）和类似装置；浏览器允许的蜂窝式电话，PDA；各种自动银行机；双向寻呼机；便携式计算机，具有有线 web 或无线 web 或者可以进行通信接入；诸如具有通信装置的触摸屏/交互式信息显示亭的亭子；上述之任一或者具有或者不具有打印、输纸、扫描或贮藏或其它类似“传统 ATM”的典型功能。TEM 还可以是各种自动提款机，自动银行机、采购点装置、亭子以及具有接收用户输入的 ID 或用户 ID 并且随后向用户显示机构标记内容的装置的其它装置。在此使用的“TEM”或交易执行机具有此意义。

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TEM 可以包括浏览器以及上述包括标记的配置，通过将嵌入的特征送到类似于文档的、TEM 指令和数据形式的浏览器系统内可以实现此配置，但是事实上可以利用浏览器对该配置进行处理，该配置包括（举例来说而没有限制意义）：小应用程序、数据以及通过插入浏览器等内可以被处理的指令。通过将其转换为显示或界面，浏览器表现的内容可以在 TEM 为用户提供了一个界面，同时可以利用传送到 TEM 的数据和指令对 TEM 进行处理，利用浏览器或其插入式应用程序或诸如指令的小型应用程序或小应用程序等可以对 TEM 进行控制以识别触摸屏输入装置，配送现金并随后在 TEM 记录机器状态和事件或交易、在 TEM 的外围装置的运行过程或业务、传送 TEM 状态等的装置。因此，所配置的 TEM 提供的用户界面至少可以由包括当并不局限于：无表面浏览器或没有表层的浏览器的一个浏览器来表现，将流式音频或流式视频或其它数据类型插入诸如 QuickTime（<sup>TM</sup> Apple

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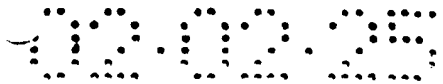
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## ● 标识

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到成员机构的广告。无需使非成员机构提供 TEM 配置，可以根据系统“类属”模式对 TEM 进行配置，从而使非成员用户看不到非成员标记，但是可以利用该系统对成员机构规范和路由器/开关运营商、TEM 所有者以及该系统内的其它利害关系人提供的内容和界面单元，进行类属型交易（非常象 Interac 或 Cirrus 或 Star 位置现在所实现的那样）。尽管在类属模式中屏幕和其它标记信息并不对单独机构专用，但是类属模式仍可以利用动态标记系统的基本方面来增加交易用途。在一个例子中，ATM 部署者、商人或系统运营商可以使用户从有效选择范围内选择优先语言，然后，该系统可以以用户选择的语言显示所有“类属”功能。此外，在通过 TEM 或通过某些其它装置，或者在某些其它时间进行输入时，该系统可以记录用户选择的优先语言，并且可以调用执行喜好以进行调整。在准备运行系统期间，或者在交易过程的特定步骤期间，有关机构和/或 TEM 客户可预先确定标记单元的类型和数量。

有些机构在最初成为此系统的成员时会发现，使商标以及标记的外部特征、标识、色调以及外貌部分在系统的控制之下，同时在现有系统地点或提供商位置保持交易控制，有用或效果最好。这种设置可以是长久设置或者作为过渡过程的一部分以允许较早进入整个多个性 TEM 系统，通过至少具有所提供的标记单元商标风格的系统设置多特性 TEM。

在使用词“标记”时，意味着最广泛意义范围，并且不仅仅提供机构的名称及其标识。在此使用的“标记”包括可以包括的标记的所有方面，例如：

显示的总体风格和主题；标识；型式风格；色调；布局；外表特征；商标；观感；使用的语言风格；使用的方言和/或国语；存在或缺少的广告空间；广告拷贝；允许或鼓励的交易类型；通过一种交易类型访问另一种交易类型的难易程度；在交易期间要求的或提供的查询/响应步骤或者页面/动作步骤；有效帐户数和有效帐户类型；具有其它



信息（可以是简单提供资料的信息，或者是以某种方式依赖于用户识别码或喜好、TEM 位置、时间、历史用途等的信息）的界面。

5       在讨论“预定”标记单元时，我们算入已经设计的标记单元或用于组装或构建已经设计并存储或可以在此时存取的标记单元的计算过程或指令。

10       为了使用多个性 TEM 系统，必须确定用户希望与其进行交互的机构。为了确定要求的机构，必须提供某些信息。此信息必须采用几个非常特别的形式：

      a. 用户出示的实际机器可读介质。这可以包括，但并不局限于，智能卡或其它卡和支票；

      b. 关于用户的生物统计信息。这可以包括（但并不局限于）可测生理标识符，例如：语音印、手印、虹膜扫描等；或者

15       c. 例如，通过红外线、RF、电话（通过 TEM 呼叫一个电话号码）或其它方式在用户方向或代表用户发送到 TEM 的一些标志。

20       通过使用户利用 TEM 提供的用户界面进行选择，例如通过在其等待状态界面上进行选择，用户可以开始使用系统。这通常还通过在 TEM 的触摸屏上进行选择，或者利用 TEM 上的小键盘、键盘或按钮来实现。

25       在此情况下，用户提供的实际标志通常可以是诸如信用卡或银行卡的一种卡。这种卡可以具有携带必要信息的磁条，或者该卡是芯片卡或智能卡，芯片卡和智能卡具有在其内存储必要信息的卡上存储器，或者以上二者取其一或者以上二者都使用，该卡还可以包含条形码或其它机器可读信息。在某些情况下，一个卡上可以以几种形式存储或携带信息，例如在磁条上或条形码上以及卡上芯片的存储器内存储信息。在这种情况下，被读取的信息源依赖于 TEM 的能力。例如，  
30       卡可以既具有磁条又具有条形码，并且当在作为在此描述系统一部分



的 TEM 内使用卡时，可以读取磁条。当在销售点使用同一张卡进行商业结帐时，可以利用钱柜上的光扫描器读取卡上的条形码。

5 为了简便起见，在使用词“智能卡”时，均指只有存储器的芯片卡或既具有存储器又具有计算功能的芯片卡，因为这两种卡中任何一个卡均可以用于在此描述的系统、方法和设备。

10 如果标志是物理标志，则用户将它提交到 TEM。这通常包括将卡插入 TEM 上的卡阅读器。这种卡阅读器具有几种形式：在用户通过阅读器打卡时，将卡提取到机器内的电动阅读器对它们进行读取，或者在用户手动插入卡时，用户仍可以对它进行存取。所有这些类型的阅读器均适于磁卡，只有最后两种阅读器对芯片卡或智能卡进行读取。电动阅读器通常为全功能自动银行机和高端亭，而在低端 ATM、现金配送器、智能显示电话、大多数亭子以及便携式装置中，打入或  
15 手动插入方法更普通。

一旦用户提交卡，读取卡上的一些或全部信息以确定用户要求交互的机构。此信息可以具有多种形式，包括：URL、BIN、IIN 或唯一编号或唯一字符串。实际上，此信息可以是两个或多个为了识别机构组合在一起成为唯一信息的信息，并且可以通过一步或多步提供此信息。  
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25 例如，如上所述，如果系统运营商逐个国家地对其成员机构指定唯一编号，并且成员机构发行其在项目上具有条形码形式的此编号和国家代码的成员项目，至少在特定系统情况下，通过利用条形编码项目对成员机构提供唯一基准，成员机构可以使其用户使用该系统。

30 如果客户通过向 TEM 提交智能卡（其中所述卡含有几个机构的标识符），来识别客户的期望成员机构，则可以通过卡上出现的、作为所述交易系统成员的所有机构的标记显示器向用户显示选择，然后

用户进行选择。

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用户可以获得期望的机构的标记界面的另一种方法是从指出希望手动选择机构的等待状态 TEM 界面中进行选择。可以鼓励用户使用多种方法到达期望的唯一机构。这是因为一系列锐化问题、利用名称进行搜索、在一系列越来越多的图像放大专题图或地理图中进行的一系列选择，或者通过手动输入诸如 BIN、IIN 或路由编号的机构标识号产生的。可以显示该期望的机构的标记以表示此机构为系统成员。通常，机构会要求用户提供用于识别和授权的进一步信息。

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在上述交易执行系统中，一些或全部 TEM 可以包括用户识别系统，用于利用首先包括用户生物统计标识符的方法，自动识别所述用户期望的机构。在 TEM 捕获用户生物统计信息，并将此用户生物统计信息与支持用户标识符方法的各成员机构的生物统计数据库内的项目进行比较。例如，如果生物统计标识符方法是进行虹膜扫描，则只需要在具有其某些客户虹膜扫描的机构内进行用户虹膜扫描。在此例中，为了加快对比速度，对各机构虹膜数据库进行并行扫描。如果仅发现一个匹配虹膜，则显示在其数据库内发现匹配虹膜的机构的标记。如果不止发现了一个匹配虹膜，则系统在 TEM 的显示器上向用户显示所有匹配机构的选择列表，用户可以从此列表内进行选择开始交易。如果对于特定用户存在几个可能机构，则可以显示匹配机构实际标记单元子集内的标记单元，例如，小标识、色调，从而支持用户进行选择。选择期望的机构后，显示该机构的标记。利用上述方法和系统可以使机构与标记位置和该标记的表示相关。

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最好通过使保持在可以被 TEM 直接或通过一些中间系统存取的单个位置的生物统计数据库组合，来改进生物统计匹配性能。

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在此描述的动态标记交易执行系统可操作地连接到一个或多个传统或遗留交易网络，从而在用户提交指出不是该系统的成员机构的期

- 用户将自己注册到 web 网点及其相关系统（这可以在根据用途设置附加用户标识符能力（例如：签名板、捕获用户图像的摄像机、生物统计 ID 能力）的 TEM 完成）；

- 用户查看并打印在系统内的 TEM 进行的先前交易；

5       ● 在用户使用作为此系统一部分的 TEM 时，用户设置并变更用户喜好；

- 用户对它们的信息或其用途设置某种限制；

- 用户寻找公众访问 TEM 的位置，包括利用用户希望使用的特定能力（例如签名板或储币室）定位位置；

10       ● 用户建立交易，包括但并不局限于，采购、大额转帐、业务注销、业务注册，当在适当配置的 TEM 显示特定交易类型要求的授权保密等级时，均要求用户通过对它们进行授权之后完成。

15       在该系统的下一个实施例中，便携式 TEM 可以用于建立晚些时间在另一个具有更强能力的 TEM 完成的交易。例如，当他们使用不具有配送现金或接收实际项目存储的 TEM 时，用户可以请求接收现金或存储项目。可以这样为用户提供收据或代码或其它方法，即用户使用的确具有进行必要现金配送能力或存储能力的 TEM 之后，用户可以利用此收据或代码或其它方法来接收现金或完成此交易。为什么

20       要求用户在具有附加能力的 TEM 完成交易的另一个例子是，仅在例如通过捕获用户图像、在 TEM 签字然后放置打印的表格、在签名板上输入签名、利用某种生物统计方法验证用户、或者利用其它方法验证用户，提供附加标识方法时，机构希望结束交易过程。

25       参考图 1，动态标记交易执行系统 8 包括多个交易执行机，交易执行机在以下被简称为 TEM 10，它与处理与路由系统 12 相连。开关系统 12 使 TEM 10 与多个成员机构 14 互连，成员机构包括但不限于：诸如银行、经纪商的金融机构，以及诸如商人组织及其单独批发商店的非金融机构。TEM 10 可以使用数据库 13 存储动态标记以及

30       其它要求的信息。另一方面，路由器 12 还可以访问存储了标记信息

的数据库 13a。然而，这依赖于连接到 TEM 10 的链路的等待时间和带宽。

5 图 2 所示的 TEM 10 包括标识装置 16（最好是卡阅读器）、用户界面 18 以及材料装置 20，材料装置 20 分别将材料送到客户（未示出）并选择性地从客户（未示出）接收材料，例如（但并不局限于）：现金提款和存款、支票、息票卡或储值卡，要求物理介质或存储装置接近系统 8 的多个交易、产品信息和广告，附加任意其它交易和通信达到成员机构技术和能力的最大允许程度，系统 8 的平衡最终与成员机构 14 相连。多个交易不必包括物理实体的传送，例如，可以将金钱转入储值卡内。数据存储模块 15 可以用于保持网点交易记录并且还可以用于存储成员机构 14 定义的用户界面 18（即动态标记单元）的识别码和/或功能。

15 图 3 所示的优选实施例的用户界面 18 用于在使用 TEM 10 的客户与共享交易执行系统 8 的任何一个成员机构之间传送要求的信息。不同通信形式包括：显示器 22 和小键盘、触摸板 24 或触摸屏、或本技术领域内已知的用于输入数字信息、非数字信息以及显示选项的选择的各种用户输入装置的组合，包括在 TEM 用户生物统计测量值和对 TEM 有效的用户生物统计测量值在内。此外，如果需要，还可以包括声频系统 26、视频系统 28 以及/或键盘 30。用户界面 18 有助于利用在任意给定时间由成员机构 14 或其它企业定义的识别码和或功能来动态标记 TEM 10。在 TEM 10 内可以使用多个显示器，与传统附属 ATM 类似，其某些显示器可以专用于显示静态标志。

25

在交易执行系统 8 的运行过程中，首先根据利用标识装置 16 从用户获得的标识信息识别用户期望的机构，如果标识装置 16 是卡阅读器，则通过将卡插入标识装置 16 内来实现识别用户期望的机构。TEM 10 利用标识信息通过开关系统 12 连接到成员机构 14。然后，根据发送到动态标记的全业务交易机的识别码和/或功能，对用户界面 18 进

30

## 说明书附图

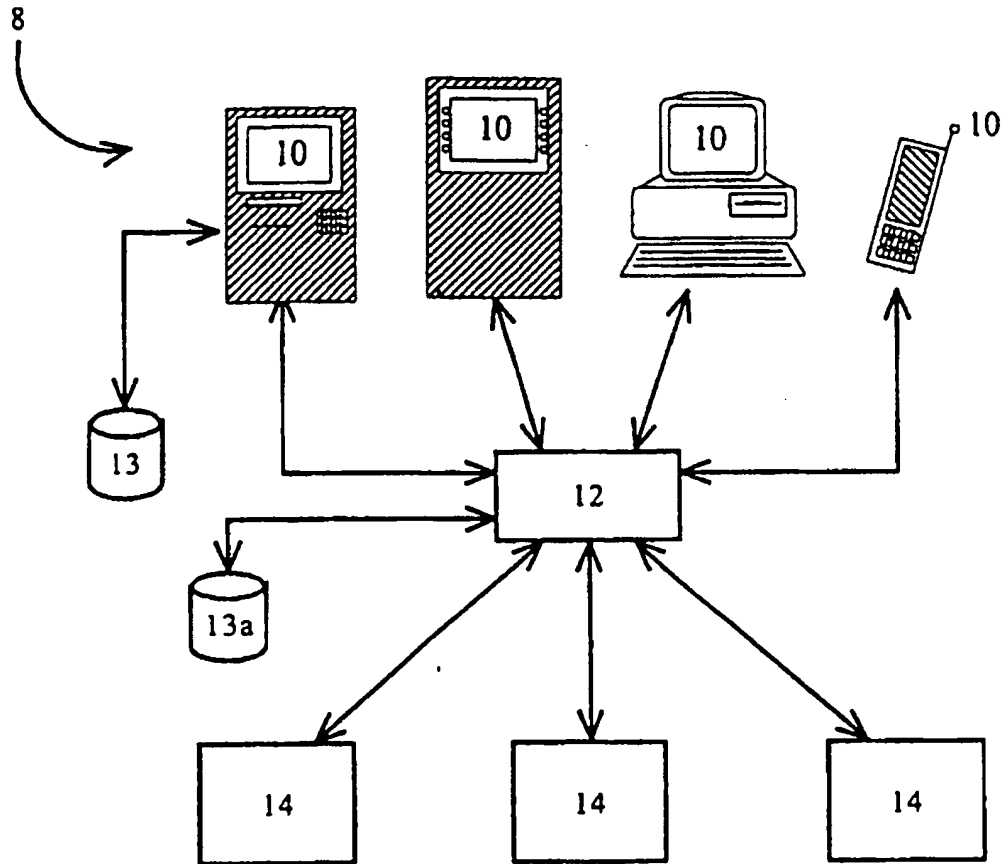







图 1

## Automated transaction execution system with plurality of user interfaces

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**Inventor:** MCNAUGHTON ALAN G (CA);  
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Abstract not available for CN1371506

Abstract of correspondent: **WO0103080**

A dynamically branded transaction execution system has a plurality of member institutions, a number of transaction execution machines (TEMs), and a processing and routing system to connect and process information between the member institutions and the TEMs. Each of the TEMs contains an identification device, a user interface, and optionally a material device. When a customer uses one of the TEMs, the user interface is subsequently modified to either be dynamically branded such that it behaves as though it were owned by the member institution for the duration of the customer's transaction or provides the user the ability to conduct transactions involving accounts held at more than one institution. Different ownership and licensing arrangements of the transaction execution system with a plurality of membership institutions is provided.

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ATMs not part of any particular "captive ATM network", such as "White Label" ATMs, cannot provide the "full service" capability available on a captive system ATM to a member institution's customers. This situation is undesirable and less than optimal for operators of non-captive ATMs, since fewer transactions can be conducted at their terminals, thus reducing their utility and derived revenue.

There is a need to provide to "virtual banks" a means of interacting with their customers by issuing and receiving physical value items (such as coupons, bank drafts, certification process, deposits) as well as their more usual "electronic banking by PC or phone" services at a multiplicity of ATM locations.

It is apparent from the prior art and practice that there is limited cross-institutional functionality in any ATM which limitations are dictated by the structure of the traditional

ATM network and inter-network consortia systems of operation (e. g. Interac'sobbled subset of transaction types) and the protocols and paradigms they employ.

Further, there are limitations in permitted functionality of ATMs caused by incidental ownership or control over the physical ownership of the ATM or the network or system of which the ATM is a part (during a transaction with a customer) such that fuller use of an

ATM may in some cases be restricted to the owner of the ATM.

It is an object of this invention to provide a transaction execution system, method, apparatus and business method, in which the above shortcomings and disadvantages are obviated or mitigated, or in which the above-described needs are addressed.

## SUMMARY OF THE INVENTION

There appears to be a need, which is unfulfilled by the discussed prior art, to provide multi-personality branded transaction machines on networks in a manner which focuses on and utilizes member institution branding as a focus, rather than user-centred profile or bankcentric models.

According to the present invention, there is provided a dynamically branded transaction execution system including at least two member institutions, at least one shared

TEM, and a processing and routing system to connect and process a plurality of information between a member institution and a user of one of the shared TEMs. The shared TEMs are configured to be responsive to user-provided information to include branding elements appropriate to the TEM under the control of a selected one of the member institutions.

According to another aspect of the present invention, there is provided a method for dynamically branding a TEM, the method comprising the steps of: a. initiating at the TEM a session between a user and a selected institution from a plurality of institutions, the selected institution including a predetermined branding element; b. coupling the TEM to the selected institution in response to identification information

supplied by the user; and c. configuring the TEM in accordance with the



Accordingly to a further aspect of the present invention, there is provided a method for dynamically branding a TEM, the method comprising the steps: a. maintaining the TEM in an idle or wait state; b. providing information to the TEM by a user to initiate a transaction session; c. operatively coupling the TEM with a selected institution based upon the information, the selected institution including a predetermined set of branding elements; d. configuring the TEM with the predetermined branding elements of the selected institution appropriate to capabilities of the TEM; e. allowing the user to conduct the transaction session with the selected institution; f. reverting the TEM to its idle or wait state after conclusion of the transaction session.

According to a still further aspect of the present invention there is provided a transaction execution system comprising: a. a TEM for facilitating a transaction session between a user and a selected institution from a plurality of institutions, the selected institution including predetermined branding elements; b. a communications system responsive to information provided by the user for operatively coupling the TEM to the selected institution; and c. a configuration system for configuring the TEM in accordance with a plurality of branding information for the selected institution, thereby dynamically branding the TEM with an identity and functionality of the selected institution.

In another embodiment of this invention is provided a dynamically branded transaction execution system comprising: a. a plurality of member institutions, each of the plurality of member institutions including predetermined branding elements; b. at least one shared TEM; and c. at least one routing and processing system to connect and process information between a selected one of the plurality of member institutions and the shared TEM; wherein the shared TEM is configured such that when a customer provides information to the shared TEM, the shared TEM comes under the control of the selected one of the plurality of member institutions, and the shared TEM is branded using the predetermined branding elements to provide an identity and functionality of the selected institution.

According to a still further aspect of the present invention, there is provided a dynamically brandable TEM for use in a transaction execution system comprising: a. a communications system operatively connectable to the TEM responsive to user provided information for coupling the TEM to a selected institution from a plurality of institutions, the plurality of institutions including predetermined branding elements; and b. a configuration system for configuring the TEM in accordance with the selected institution, thereby facilitating dynamic branding said TEM with the predetermined branding elements of the selected institution.

According to another aspect of the present invention, there is provided a system for providing a user with an interaction session that is dynamically branded, the system comprising: a. a TEM for facilitating the interaction session between the user and a

branding elements of the selected institution; c. a configuration system for configuring the TEM in accordance with the desired predetermined branding elements, thereby dynamically branding the TEM; and d. a revenue stream generated as a result of the interaction session between the user and the TEM; wherein a portion of the revenue stream is distributed to a participant of the system.

According to a still further aspect of the present invention, there is provided a computer-readable media for use in providing a dynamically branded transaction execution system comprising:

- a) at least one TEM for facilitating sessions between a user and a selected institution from a plurality of institutions, the selected institution including a predetermined branding element;
- b) a communication system responsive to information provided by the user for operatively coupling one of the TEMs to the selected institution; and
- c) a configuration system for configuring the TEM in accordance with the predetermined branding element, thereby dynamically branding the TEM with an identity and functionality of the selected institution.

## BRIEF DESCRIPTION OF THE DRAWINGS

These and other features of the preferred execution system provides for the TEM apparatus and for a system that includes such dynamically branded TEMs.

A TEM is a machine with a purpose of effecting a transaction between a user of the machine and an institution, where the TEM interacts with the user through input/output subcomponents. The TEM and the institution are coupled by the communication and configuration systems. The TEM is capable of being configured to include the branding of at least one desired institution during the transaction session with the user.

A TEM can include a variety of known devices, predictable devices, and those which may arise in future. Known devices which are capable of being TEMs when properly configured as part of the system disclosed include (by example and not by limitation) the following: ATMs; personal computers with browsers and web access; web-TV (TM Microsoft

Corporation) and similar devices; browser-enabled cell-phones, PDAs; various automated bank machines, two-way pagers; portable computers with wired or wireless web or communications access; kiosks such as touch-screen/interactive information-displaying kiosks with communications means; any of the above, either with or without printing, sheet dispensing, scanning, or depository or other similar "legacy ATM" typical capabilities. The

TEMs could also be a variety of automated cash machines, automated bank machines, point of purchase devices, kiosks, and other devices with a means to receive ID from or of a user and to subsequently present an institution's branded content to the user.

When used herein, "TEM" or Transaction Execution Machine, shall have this meaning.

any way of limitation, applets, data and instructions capable of being handled by plug-ins to a browser, and the like. Content may be rendered by the browser to provide an interface to the user at the TEM by being converted into a display and interface, while the TEM may be controlled by data and instructions sent to it which are otherwise handled by the browser or its plug-in applications or mini-apps or applets or the like, such as instructions to permit recognition of a touch-screen input device, means of accomplishing the dispensing of cash and the consequent recording of machine states and events or transactions, the operation or engagement of peripheral devices at the TEM, the communication of TEM states, and the like. Thus, the user interface provided by the configured TEM is anything renderable by at least one browser, including but not limited to faceless browsers or a browser with no skin, streaming audio or video, or other data-type plug-ins, players or components such as QuickTime (TM Apple Computers), Shockwave (TM Macromedia), Flash (TM), Realaudio (TM Real Corp), and the like.

The logic, presentation and appearance of a user interface of the TEM, including transactions executed at the TEM which may be an ATM, are collectively referred to here as "branding" elements, and when variably provided by the system of this invention, as components of "dynamic branding".

Some sample elements of branding may include:

- logo
- type style, color scheme, layout
- display layout, trade dress, trade marks, look and feel
- functionality, advertising space, advertising copy, special features and functions
- transaction ordering and sequencing capability
- types of transactions permitted, encouraged, degree of difficulty or ease in accessing one type over another, steps of query/response or page/action required or provided during the transaction session; number and type of accounts available, interface with other information (which may be simply informative, or may be tied somehow to user identity or preference, TEM location, time of day, date, historical use, other)
- degree of personalization to end-user (identity, name, preferences-chosen or by statistical analysis or otherwise)

There are three variants of the "branding" of a TEM, namely: 1) when the member institution controls the TEM directly through the communications and configuration means of the system; 2) when the member institution uses a legacy or traditional authorization network service provider (an example is the Interac consortium system) to provide transaction services, but desires the transaction to be partially branded from the user's point of view; and 3) when a user interacts at a TEM which is part of the system where the institution with which the user wishes to deal is not a member institution, in which case the transaction authorization, logic, and sequencing might be required to conform to the requirements controlled by Interac or another legacy or traditional transaction service, the other elements of "branding" would be controlled by the router/switch element of the communications and configuration systems of the invention, and could include advertising leading a user away from the user's preferred but foreign institution to a member institution or otherwise. Nonmember institutions may be enabled to provide configuration of the TEM which may be

ow) with content and interface elements provided by this system to the specifications of the member institutions and the router/switch operator, the TEM owners, and the other stake-holders in the system. While the screens and other branding information in the generic mode may not be specific to an individual institution, the generic mode can still utilize the fundamental aspects of the dynamic branding system to increase the utility of the transaction. In one example, an ATM deployer, merchant or the operator of the system could enable a user to express language preference from a range of available choices, and the system can display all the 'generic' functionality in the language of that user's selected choice. Further, the system can record the preferences expressed by the user as entered either at the TEM or through some other means or at some other time, and recall those preferences to modify. The type and number of branding elements can be predetermined by the associated institutions, and/or the TEM customers, during setup and operation of the system or during particular stages of a transaction session.

Some institutions when initially becoming members of this system may find it useful or desirable to put only the trade-mark and trade-dress, logo, color scheme and appearance portion of the branding into the control of the system, while maintaining the transactional control at an existing system site or provider location. This arrangement might be a permanent arrangement or might be part of a transition to allow early entry into the entire system of multi-personality TEMs provided through this system with at least the trade-mark style of branding elements being provided.

When the word "branding" is used, it is meant in the broadest possible sense, and not merely to provide the name of the institution and its logo. "Branding" as used herein includes all aspects of branding which may include, by example: the overall style and motif presented; logos; type styles; color schemes; layout; trade dress; trademarks; look and feel; style of language used; dialect and/or national language used; presence or absence of advertising space; advertising copy; types of transactions permitted or encouraged; degree of difficulty or ease in accessing one transaction type over another; steps of query/response or page/action required or provided during the transaction session; number and type of accounts available; interface with other information (which may be simply informative, or may be tied somehow to user identity or preference, TEM location, time of day, date, historical use, or other information).

When we discuss "predetermined" branding elements, we include branding elements which have been designed or the calculation or instructions for the assembly or building of which have been designed, and are stored or accessible at the time.

In order to use the system of the multi-personality TEMS, the institution with which the user wishes to interact must be determined. In order to determine the desired institution, some information must be provided. This information can take any of several very distinct forms: a. physical machine readable indicia presented by the user. This would include, but not be limited to, smart or other cards and cheques; b. biometric information about the user. This could include (without limitation)

recognizable physiological identifiers such as voice print, fingerprint, iris pattern and the

It is also possible for a user to begin using the system by allowing the user to make a selection using the user interface provided by the TEM such as by a choice on its wait state interface. This would usually be by making selections on a touch screen on the TEM, or by using a keypad, keyboard or buttons on the TEM.

Physical indicia presented by a user would at this date most commonly be a card such as a credit card or bank issued card. Such a card can have either a magnetic strip that carries the necessary information or it can be a chip card or smart card, which has on-card storage that contains within it the necessary information, or alternatively or additionally, the card might contain a bar code or other machine-readable information. In some cases a single card may contain or carry information in several forms such as both on a magnetic strip or bar code and within the storage of a chip on the card. In such a case the source of information read will depend upon the capabilities of the TEM. For example a card may have both a magnetic strip and a bar code, and when the card is used in a TEM that is part of the system described herein, the magnetic strip may be read. When that same card is used at a point-of-sale checkout of a merchant the bar code on the card may be read by an optical scanner at the till.

For brevity, where we use the words "smart card" it shall be taken to mean either a memory-only chip card or a chip card that has both memory and computing capability, as either can work for the system, methods and apparatus described herein.

Where the indicia is physical, the user presents it to the TEM. Usually this involves inserting a card into a card reader on the TEM. Such card readers can take several forms: where the user swipes the card through a reader, motorized readers that retract the card inside the machine to read them, or ones where the user manually inserts the card and it stays accessible to the user. All of these types of readers are suitable for magnetic cards while only the last two are suitable for reading chip or smart cards. The motorized readers are common in full function automated bank machines and high end kiosks, while the swipe and manual insert schemes are more common in low end ATMs, cash dispensers, smart display phones, most kiosks and portable devices.

Once the user has presented the card, some or all of the information on the card is read in order to determine the institution with which the user desires to interact. This information can take a variety of forms including a URL, a BIN, a IIN or a unique number or string. The information may actually be two or more pieces of information which when taken together are unique for purposes of identifying the institution, and may be provided in one or more steps.

For example, if the operator of a system, as described herein, were to assign unique numbers to its member institutions on a country by country basis, and member institutions issued their members items which had both this number and the country code in the form of a bar code on the item, then the member institutions could provide for their users to use the system by using the bar coded item to provide a unique reference to a member institution, at least within the context of that particular system.

all institutions represented on the card that are members of the said transaction system.

Another way that a user can obtain the branded interface of the desired institution is to make a selection from the wait state TEM interface indicating a wish to manually select an institution. The user could be prompted using a variety of approaches to arrive at a desired unique institution. This could be through a series of narrowing questions, a search by name, a series of selections from a series of more and more zoomed-in topic maps or geographic maps, or by manually entering institution identification numbers such as its BIN, IIN or routing number. The branding of that desired institution would then be presented assuming such institution was a member of the system. Typically, the user would then be required by the institution to provide further information for identity and authentication.

In a transaction execution system as defined herein, some or all of the TEMs may include a user identification system for automatically identifying said user's desired institution by a method that first involves biometric identification of the user. The biometric information about the user will be captured at the TEM and will then be compared with entries in the biometric databases of each member institution that supports such method of identification of a user. For example if the biometric identification method is an iris scan, then the user's iris scan only needs to be searched in institutions that have iris scans for some of their customers. In this example, to speed the matching it may be desirable to scan every institution's iris databases in parallel. If only one match is found then the branding of the institution in whose database the match was found will be presented. If more than one match is found, then the system could present to the user on the display of the TEM a pick list of all the matching institutions from which the user could make a selection to proceed. Where there are several possible institutions for a particular user, of a subset of the matching institutions' essential branding elements of those institutions could be displayed, such as a small logo and color scheme, in order to assist the user in making a choice. Having selected the desired institution, the branding of that institution would be presented. The relating of institution to branding location and the presentation of that branding would be done using methods and systems previously described.

It may be desirable to improve the performance of biometric matching by having a consolidated set of biometric databases maintained at a single location accessible by the TEM directly or through some intermediary system.

The dynamically branded transaction execution system described herein can be operatively connected to one or more traditional or legacy transaction networks, so that when users presents indicia that indicates a desired institution which is not a member institution of the system, the user's transactions can be supported to the extent possible by operatively communicating with the desired non-member institution over traditional transaction networks. In this case, the transaction would not be branded and the available transaction types would be limited to those supported by the particular traditional transaction network (such as Interac, Cirrus or Honor/Star).

A user enrolling themselves to the web site and related system (this may have to be completed at a TEM that provides additional user identification capabilities such as a signature pad, a camera to capture the user's image, biometric id capability, depending upon the use).

A user viewing and printing previous transaction conducted at TEMs in the system.

A user setting and changing preferences for use when the user is using a TEM that is part of this system.

A user placing certain restrictions on their information or its use.

A user finding the location of publicly accessible TEMs including locating just the ones with a particular capability, such as signature pad or depository, that the user intends to use.

A user setting up transactions, including without limitation, purchases, large transfers, service cancellations, service enrolment, which require the user to later complete them by authorizing them when present at a TEM suitably configured for the level of authorization security needed for the particular type of transaction.

In a further embodiment of the system, a portable TEM can be used to setup a transaction that is meant to be completed at a later time at another TEM which has more capabilities. For example, a user may request to receive cash or to deposit an item when they are at a TEM that does not have the ability to dispense cash or receive such deposit of a physical item. The user can be provided with a receipt or code or other means such that later when the user is at a TEM that did have requisite cash dispensing or deposit taking capability they could use this receipt or code or other means to receive the cash or otherwise complete the transaction. Another example of why a user may be required to complete a transaction at a TEM with additional capability, is that an institution may wish to finalize a transaction only when additional means of identification is provided such as by way of capturing an image of the user, signing and then depositing a form printed on the TEM, entering a signature on a signature pad, authenticating the user by some biometric means, or authenticating the user by other means.

Referring to Figure 1, a dynamically branded transaction execution system 8 includes a plurality of transaction execution machines, hereafter referred to as TEMs 10, connected to a processing and routing system 12. The switch system 12 interconnects the TEMs 10 with a plurality of member institutions 14, including but not limited to financial institutions such as banks and brokerage houses, and non-financial institutions such as merchant organizations and individual outlets thereof. A database 13 can be used by the TEMs 10 for dynamic branding and other required information. Alternatively, the router 12 may also have access to a database 13a containing the branding information. This however, depends on the latency and bandwidth of the link to the TEM 10.

s but not limited to cash withdrawals and deposits, cheques, coupons cards or stored value cards, a plurality of transactions requiring a proximity of physical media or storage devices to the system 8, product information and advertising, plus any other transactions and communication to the maximum extent permitted by the technology and capability of the member institutions 14 to which the balance of system 8 is ultimately connected. The plurality of transactions may not necessarily involve a transfer of a physical entity, for example money could be transferred to a stored value card. A data storage module 15 may be used to keep on site transaction records and may also be used to store the identity and/or functionality of the user interface 18 (i.e. dynamic branding elements), defined by the member institutions 14.

The user interface 18 of the preferred embodiment, shown in Figure 3, is used to communicate desired information between the customer using the TEM 10 and any of the member institutions 14 sharing the transaction execution system 8. Different forms of communication include a display 22 and a keypad, touch pad 24 or touch screen, or any combination of user input devices known in the art for the entering of numerical information, non-numerical information, and the selection of presented options, including by measurement of user biometrics at or available to the TEM. In addition, an audio system 26, a video system 28, and/or a keyboard 30 may also be included if desired. The user interface 18 facilitates the dynamic branding of the TEM 10 with the identity and or functionality defined by the member institutions 14 or other businesses at any given time. Multiple displays may be used in the TEM 10, one of which may be dedicated as a static sign similar to those in conventionalaptive ATMs.

In operation of the transaction execution system 8, the user's desired institutions, is first identified based on identification information obtained from the user by the identification device 16, which in the case of a card reader is accomplished by entering a card in the device 16. The TEM 10 uses the identification information to connect by the switch system 12 to the member institutions 14 thus coupled. The user interface 18 is subsequently modified according to identity and/or functionality to a full service transaction machine, dynamically branded such that the TEM 10 behaves as though it were owned by the member institution 14 for the duration of the customer's transaction. The branded TEM 10 preferably provides the full service desired by that institution for its customers. Once the customer is finished a transaction session, the TEM 10 can revert to a standby mode, or wait state, and is ready for interaction with another customer. During this standby mode a user may, with or without providing identification or being identified, use the TEM 10 as an information kiosk, if desired.



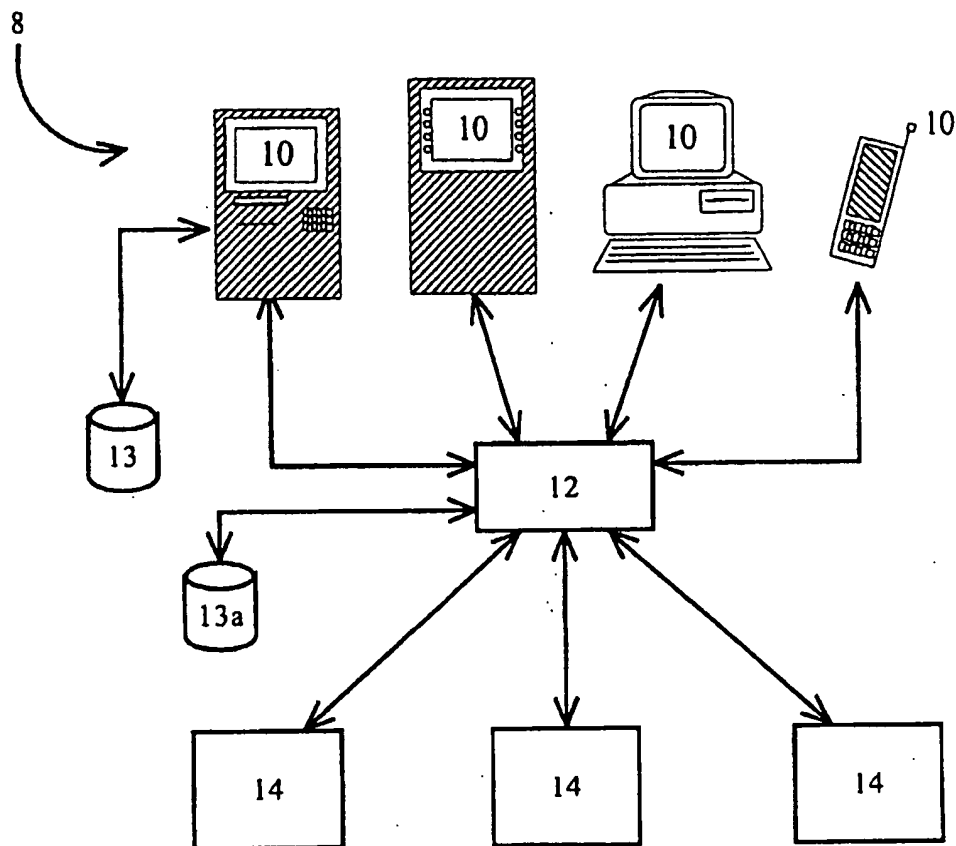


Figure 1

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